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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/080,672	02/25/2002	Katsutoshi Misuda	03500.016227	8154

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EXAMINER	
FERGUSON, LAWRENCE D	
ART UNIT	**PAPER NUMBER**
1774	

DATE MAILED: 01/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/080,672	MISUDA, KATSUTOSHI	
	Examiner	Art Unit	
	Lawrence D. Ferguson	1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 October 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-7 and 9-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-7 and 9-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 10/15/2002
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This action is in response to the amendment held October 31, 2005. Claim 1 is amended rendering claims 1, 3-7 and 9-13 pending, with claim 13 withdrawn as a non-elected invention.

Claim Rejections – 35 USC § 103(a)

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 3-7, 9 and 11-12, are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirose et al. (U.S. 6,203,899) in view of Barcock et al (U.S. 6,502,935).

Hirose discloses an ink jet recording medium comprising a base material, ink receiving layer provided on the base material and a surface layer (dye fixing layer) provided on the ink receiving layer (column 2, lines 40-60) where the particles making up the surface layer fixes the coloring material component to the surface layer (column

3, lines 40-45 and column 4, lines 60-65). The ink-receiving layer is equivalent to the claimed light-reflecting layer because it contains light reflecting material, such as aluminum. The reference discloses the ink receiving layer includes pigments such as silica and alumina which are used singly or in combination, where it is preferable to use at least one selected from silica and alumina (column 5, lines 50-67). The surface layer of Hirose includes alumina hydrate (column 3, line 52 through column 4, line 12) where the particles are within a range of from 0 to 100 parts by weight (column 5, lines 34-40) and the surface layer has a 20 glossiness of 20% or higher (column 5,lines 45-49). Instant claim 12, the phrase, "an image forming method, comprising a step of conducting recording on the recording medium...by an ink-jet recording system" introduces a process limitation to the product claim. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966. Further, process limitations are given no patentable weight in product claims. Hirose does not disclose wherein the average particle size of the aluminum pigment is smaller than the average particle size of the silica pigment or barium sulfate.

Barcock discloses an ink jet recording material (column 1, lines 9-10) comprising a support material and pigment layers provided on the support material, which comprise a lower layer (light reflecting layer) containing barium sulfate having a particle size of 0.2 to 2.0um and an upper layer (dye-fixing layer) containing aluminum oxide having a

particle size of 0.7 to 5um, where the lower layer may also contain aluminum and silicic material, having a particle size of 0.7 to 5um (column 2, lines 1-29 and column 6,lines 40-49). The light reflecting layer is equivalent to the lower layer because the underlayer comprises light reflecting material, such as aluminum. Barcock further discloses the upper layer comprises dye-fixing agents (column 3, lines 24-25) and the recording material is glossy (column 1,lines 63-67). Hirose and Barcock are analogous art because they are both directed to ink jet-recording material. It would have been obvious to one of ordinary skill in the art to include barium sulfate in the ink-receiving layer of Hirose to improve the adhesion to the support (column 2,lines 39-42). Neither reference teaches a refractive index of the recording medium, as in instant claim 6, this feature is directly related to the specific pigmented particles used. Since the references use the same barium sulfate in the underlayer and the same dye-fixing layer, respectively, the refractive index of the recording material would be expected to be the same as Applicant claims. Neither reference discloses the claimed glossiness value; however, such gloss values are properties which can be easily determined by one of ordinary skill in the art. With regard to the limitation of the glossiness value, absent a showing of unexpected results, it is obvious to modify the conditions of a composition because they are merely the result of routine experimentation. The experimental modification of prior art in order to optimize operation conditions (e.g. glossiness value) fails to render claims patentable in the absence of unexpected results. The glossiness value of the dye-fixing layer are optimizable as they directly affect the opacity of the light-reflecting layer. It would have been obvious to one of ordinary skill in the art to make the light reflecting

layer with the limitations of the glossiness value of the dye fixing layer since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. (*In re Boesch*, 617 USPQ 215 (CCPA 1980) *and Slaney*, 205 USPQ 215).

Response to Arguments

4. Rejected made under 35 U.S.C. 112, second paragraph, is withdrawn due to Applicant amending claim 1 to clarify the relationship between pigments A and B.

Arguments regarding rejection made under 35 U.S.C. 103(a) as being unpatentable over Hirose et al. (U.S. 6,203,899) and EP 1048480 A1 have been considered and EP 1048480 is withdrawn and Barcock et al (U.S. 6,502,935) is added in view of Hirose. Applicant argues the particle sizes are for the overlayer not the underlayer. According to column 2, lines 13-41, the lower layer may comprise a lower layer (light reflecting layer) containing barium sulfate having a particle size of 0.2 to 2.0um and an upper layer (dye-fixing layer) containing aluminum oxide having a particle size of 0.7 to 5um, where the lower layer may also contain aluminum and silicic material, having a particle size of 0.7 to 5um (column 2, lines 1-29 and column 6,lines 40-49). Applicant argues the relationship of the pigment (A) and pigment (B) are opposite from the claimed invention. Examiner is not persuaded by this argument, because the 0.7 to 5um particle size of the aluminum material has values within its range that are smaller than values within the average particle size of the barium sulfate having a particle size of 0.2 to 2.0um.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence Ferguson whose telephone number is 571-272-1522. The examiner can normally be reached on Monday through Friday 9:00 AM – 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye, can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LF

L. Ferguson
Patent Examiner
AU 1774

RENA DYE
SUPERVISORY PATENT EXAMINER
A.U. 1774 1/5/04